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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/645,041

08/21/2003

Mark Allen Grubbs

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EXAMINER

MASKULINSKI, MICHAEL C

ART UNIT

PAPER NUMBER

2113

MAIL DATE

DELIVERY MODE

02/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/645,041

Applicant(s)

GRUBBS ET AL.

Examiner

Michael C. Maskulinski

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-15 and 17-19 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Second Non-Final Office Action

Response to Arguments

1. Applicant's arguments, filed May 8, 2007, with respect to claims 4-15 have been fully considered and are persuasive. The rejection of claims 4-15, under 35 U.S.C. 102(e) as being anticipated by Olson et al., has been withdrawn.
2. Applicant's arguments, filed May 8, 2007, with respect to the rejection(s) of claim(s) 1-3 under 35 U.S.C. 102(e) as being anticipated by Bergsten have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shim, US 2003/0056079 A1.

Claim Rejections - 35 USC § 101

3. In view of the recent amendments, the rejection of claims 8-11, under 35 U.S.C. 101 as being directed to non-statutory subject matter, has been withdrawn.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-3 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Shim, US 2003/0056079 A1.
6. Referring to claim 1:
 - a. In Figure 4A, Shim discloses a sparse logical volume since not every logical address is used and allocated to a physical address.

Art Unit: 2113

- b. In Figure 4A and in paragraph 0043, Shim discloses interrogating a logical partition of a sparse logical volume to determine if said logical partition contains valid data and in response to a determination that said logical partition contains valid data, allocating said logical partition to a corresponding physical partition within a physical volume.
 - c. In Figure 4B and in paragraph 0044-0045, Shim discloses in response to a determination that said logical partition does not contain any valid data, returning to said interrogating for a next logical partition within said sparse logical volume (logical address 0 contains invalid data and its corresponding physical address is re-allocated to logical address 8).
7. Referring to claim 2, in Figures 4A and 4B, Shim discloses an address translation look up table (recording the relationship between partitions within said sparse logical volume and partitions within said physical volume in a mapping list).
8. Referring to claim 3, in Figures 4A and 4B, Shim discloses an address translation look up table (recording the relationship between partitions within said sparse logical volume and partitions within said physical volume in an extent list).
9. Referring to claim 16, In Figure 4B and in paragraph 0044-0045, Shim discloses allocating storage in said physical partition for only storage locations in said logical partition that contain valid data and not allocating storage in said physical partition for storage locations in said logical partition that do not contain valid data (logical address 0 contains invalid data and its corresponding physical address is re-allocated to logical address 8).

Allowable Subject Matter

10. Claims 4-15 and 17-19 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter.

12. Referring to claim 4, the prior art does not teach or reasonably suggest in response to said partition within said sparse logical volume being allocated, copying said partition to said replacement physical volume and returning to said interrogating until all partitions within said sparse logical volume have been interrogated.

13. Referring to claim 8, the prior art does not teach or reasonably suggest program code means, responsive to said partition within said sparse logical volume being allocated, for copying said partition to said replacement physical volume and returning to said interrogating until all partitions within said sparse logical volume have been interrogated.

14. Referring to claim 12, the prior art does not teach or reasonably suggest in response to said partition within said sparse logical volume being allocated, means for copying said partition to said replacement physical volume and returning to said interrogating until all partitions within said sparse logical volume have been interrogated.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Maskulinski whose telephone number is (571)272-3649. The examiner can normally be reached on M-F 9:30-6:00.

Art Unit: 2113

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael C Maskulinski/

Primary Examiner, Art Unit 2113